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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,575	02/26/2002	Robert Karl Goodman	67,008-037/S-5194	8919

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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT PAPER NUMBER

2125

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,575

Applicant(s)

GOODMAN, ROBERT KARL

Examiner

Paul L. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-21 is/are pending in the application.
- 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 6-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/7/02, 2/16/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

ND

DETAILED ACTION

1. The amendment filed 5/23/05 has been received and considered. Claims 6-21 are presented for examination.

Election/Restrictions

2. Newly submitted claims 17-21 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: A restriction requirement was made on 2/16/05 where an election without traverse was made to the invention recited in claims 6-16 and was later confirmed by applicant in the remarks filed 5/23/05. New claims 17-21 contain similar limitations presented in original claims 1-5, which were directed to the non-elected invention. The methods recited in claims 17-21, while directed to a method for reducing vibration, are considered separate and distinct from the method presented in claims 6-16.

Since applicant has received an action on the merits for the originally presented invention as recited in claims 6-16, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17-21 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Information Disclosure Statement

3. The information disclosure statement filed 2/16/05 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because while the cover letter corrected the application number the PTO-1449 submitted lists the wrong application number so it is unclear if the PTO-1449 submitted is the correct one. Also, reference number 3 listed application serial number 10/803,949 as relating to U.S. Pat 6,772,074 however the associated serial number for this patent is 10/083,949. It has been placed in the application file, but the information referred to therein

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has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

4. The information disclosure statement (IDS) submitted on 8/7/02 was timely filed however was previously overlooked due to placement of papers in the application. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. The first NPL document "Helicopter Gear-Mesh ANC..." has been lined through because no publish date listed.

Specification

5. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the amended version still uses the term "said", see line 6. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 6, 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Swinbanks (U.S. Pat 5,838,802). The claimed invention reads on Swinbanks as follows:

Swinbanks discloses a method, apparatus, system, medium for actively controlling vibration (abstract, col. 1 lines 43-60) including measuring ambient vibration (col. 2 lines 45-49, col. 5 lines 56-57), generating a first command signal based upon said vibration (col. 2 lines 50-59, col. 5 line 58 – col. 6 line 11) constraining a first component of the first command signal (col. 2 lines 60-63, col. 3 line 25 – col. 4 line 49, col. 6 lines 6-11, 21-25), calculating a residual vibration resulting from the constraint of the first component (col. 2 line 64 – col. 3 line 5, col. 6 lines 45-46), generating a second command signal based upon said residual vibration calculated in step d (col. 6 lines 46-47). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Southward et al (U.S. Pat 5,627,896) in view of Hodgson et al (U.S. Pat 5,526,292).

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Southward et al teaches a method, system, and medium for actively controlling vibration (abstract, col. 4 line 57- col. 6 line 10) including measuring ambient vibration (col. 15 lines 56-57, generating a first command signal based upon said vibration measured (col. 15 lines 58-62), constraining a first component of the first command signal (col. 15 line 63 – col. 16 line 19), further includes the step of comparing said first component of the first command signal to a maximum allowable command signal (col. 5 lines 46-50, col. 6 lines 62-66, col. 7 lines 46-55, G_{max}), further includes the step of reducing the first component to the maximum allowable command signal (col. 16 lines 1-19) and also teaches in the background of the invention that it is well known to determine a residual vibration resulting from the constraint of the first component (col. 2 lines 17-20) generating a second command signal based upon said residual vibration (col. lines 17-20, reference number '24). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Southward et al fails to teach activating a plurality of force generators based upon said constrained first component and said second command signal.

Hodgson et al teaches a method, system, and medium for actively controlling vibration (abstract, figure 11) measuring ambient vibration (reference number 11, 12) generating a first command signal based upon said vibration measured (col. 4 lines 32-40) calculating a residual vibration resulting from the first component (col. 7 line 58 – col. 8 line 41, col. 8 lines 60-63) generating a second command signal based upon said residual vibration (reference numbers 13, 14) and further including the activating a plurality of force generators based upon said constrained first component and said second command signal (reference number 50, plural

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actuators, figure 2, 11, col. 8 lines 13-41). Again any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Southward et al and Hodgson et al are analogous art because they are both related to active vibration control.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the plurality of force generators of Hodgson et al in the active vibration and noise control of Southward et al because Hodgson et al teaches focusing actuator groups, permitting size, capability and the number of actuators to be optimized for an application (col. 1 lines 49-55), the system is effective for both vibration and audible or sound vibration energy (col. 1 lines 61-64) and the system can sense and cancel broadband signals (col. 2 lines 35-50).

Response to Arguments

10. Applicant's arguments filed 5/23/05 have been fully considered but they are not persuasive.

Applicant argues that Swinbanks measures residual noise and does not calculate it. Examiner disagrees, microphone 11 detects, passes from microphone 11 to FFT circuit 19 of controller 9 where it is transformed from a time domain to a frequency domain and FFT circuit provides to processor a plurality of elements. It is the Examiners position that the Fourier Transformation is a calculation.

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Applicant argues that Swinbanks does not disclose, teach or suggest a control unit and the limitations in the independent claims. Examiner disagrees and maintains the previous art rejection as presented. The Examiner also considers the controller 9 to read on the control unit.

Regarding the combination of Southward and Hodgson, Applicant argues that neither disclose, teach or suggest calculating a residual vibration. Examiner disagrees, Hodgson et al teaches a DSP controller which is fed by plural sensors 52, the DSP controller inherently calculates a residual vibration using sensor 52 and is used to generate command signals to actuators 50.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Millott et al (U.S. Pat 6,856,920 and U.S. Pat 6,772,074) – Active control vibration systems and methods of assignee.

Fuller (U.S. Pat 4,715,559) – an apparatus for actively controlling vibration, teaching an error sensor to determine and command a signal proportional to a residual noise.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period


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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L. Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Paul L Rodriguez
Primary Examiner
Art Unit 2125

PLR
6/29/05